



Flame Engineering and its distributors have been demonstrating the Poultry House Flame Sterilizer across the country, including at Larry Cuzan's Farm in Welsh, Okla. (above) last fall. Photo courtesy of the Oklahoma Propane Gas Association.

Propane Sanitizes Poultry Houses Organically

Just like in the fashion world, agriculture has its trends. What's "in" today is organic produce and organically-raised poultry and livestock. What's out are chemicals, pesticides, and herbicides.

Weed and pest control using propane-fired equipment has been in use for decades. The sterilization of poultry houses was written about in the 1932 edition of *BPN's* "Handbook of Butane-Propane Gases." Even before the propane industry was established, scientists were advocating the use of heat to kill bacteria and other organisms. Louis Pasteur reportedly recommended that surgeons flame their hands to prevent contaminating patients.

Demand for flammers and weed burners fell precipitously with the growing use of chemicals for a variety of ag applications after World War II. However, as consumers now demand organic products, propane's role in producing them is also growing. Most recently, the U.S. Department of Agriculture (USDA) formally recognized thermal weed control using a propane flame or heat as an authorized organic production practice.

While the USDA's announcement covers thermal weed control, it wouldn't be too far-fetched to believe that sterilizing agricultural operations using heat instead of chemicals would meet the definition of an authorized organic production practice. According to Mark Leitman, agriculture programs manager for the Propane Education & Research Council (PERC), the agency's language is open to interpretation as it relates to disease and pest control in animal quarters. There is a list of practices that notes "includes but is not limited to..." Leitman explains that if producers want to be officially labeled as organic, they would have to work with a certifying agent to have their production plans approved. In addition, any grower can petition the National Organic Standards Board for amendments. PERC's Agriculture Advisory Committee has been discussing the certification designation.

A decision by the Texas Animal Health Commission in

mid-2004 could help confirm that the use of heat to sterilize poultry operations is an organic and effective method. Early last year, an outbreak of avian flu shut down several poultry operations in parts of Texas. The commission stipulated that poultry growers affected by the avian flu had to sterilize their egg houses and surrounding land using some form of flaming before they could re-open.

The Texas poultry industry brings in about \$1 billion annually to Texas' ag economy and represents about \$123 million in export dollars. With the news that the avian flu had been found in Texas, a number of countries banned imports from the state. Two farms were quarantined and the chickens had to be destroyed.

Luckily for the poultry farmers, who are under contract with Pilgrim Pride, Wes Welch of Welch Gas (Linden, Texas) had just begun to demonstrate Flame Engineering's (LaCrosse, Kan.) Poultry House Flame Sterilizer in Texas. Welch told *BPN* that Pilgrim Pride initially was going to sterilize the egg houses and equipment using chemicals, an accepted industry practice. However, an inspector with the Texas Animal Health Commission insisted that the only way to completely get rid of the pathogens was to take the additional step of flaming the floor of the four houses affected, the driveway up to the farm, and the surrounding 200 feet or so around each house, which are about 350 feet long.

The sterilizer utilizes six LT 2x8 liquid propane torches that project intense, sweeping flames under a sturdy enclosed steel hood. It maintains heat at approximately 1400°F, hot enough to kill pathogens. A standard 120-gal. tank is recommended to fuel the unit, which is connected to a trailer via a three-point hitch and wires to the 12-v tractor battery. Fuel consumption varies depending on the use. A Red Dragon Hand-Held torch kit is included to light the burners and sterilize the corners and edges of the facility.

Egg houses are harder to sterilize than broiler houses, said Welch. The grower has to remove the equipment. That equip-